

**ABSTRACT**

A method and apparatus for processing imagery using images acquired via any known Electro-Optical (EO) system. In accordance with exemplary embodiments of the present invention, a first frame of data is selected as a template frame (e.g., a given frame). A second frame of data can be captured using the EO system. At least a portion of the second frame can be correlated with the template frame to generate a shift vector. The second frame can then be registered with the template frame by interpolating the second frame using the shift vector and re-sampling at least a portion of the second frame to produce a registered frame. The template frame can also be re-sampled. The registered frame and the re-sampled template frame can then be combined to generate an averaged frame. The averaged frame can be spatially filtered to enhance edges within the averaged frame.